

Appendix A2

Implementation Schedule of the Recommended Mitigation Measures for New Sewage Pumping Stations Serving the Planned KTD

Table A2.1 Implementation Schedule for Air Quality Measures

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.2	<p>Implementation of dust suppression measures stipulated in <i>Air Pollution Control (Construction Dust) Regulation</i>. The following mitigation measures, good site practices and a comprehensive environmental audit programme are recommended to minimize cumulative dust impacts.</p> <ul style="list-style-type: none"> • Stockpiling site(s) should be lined with impermeable sheeting and banded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission. • Misting for the dusty material should be carried out before being loaded into the vehicle. • Any vehicle with an open load carrying area should have properly fitted side and tail boards. • Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin. • The tarpaulin should be properly secured and should extend at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary before transportation. • The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways inside the site. On-site unpaved roads should be compacted and kept free of loose materials. • Vehicle washing facilities should be provided at every vehicle exit point. • The area where vehicle washing takes place and the section of the road between the washing facilities and 	Work Sites / During Construction	Contractor		✓			EIAO-TM & Air Quality Objective

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	<p>the exit point should be paved with concrete, bituminous materials or hardcores.</p> <ul style="list-style-type: none"> Every main haul road should be sealed with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet. Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the three sides. Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. 							
S4.2	<p>(i) Provision of deodorization system and odour sources being enclosed; and</p> <p>(ii) Commissioning tests for all deodorization system should be included in the Design and Construction Contract Document.</p>	PS1, PS1A, PS2, PS3, SPS at Site 5A1 and PS6	DSD (for the initial phase of PS1 & PS3) CEDD (for PS1A, PS2, SPS at Site 5A1, PS6, and the ultimate phase of PS1 & PS3)	✓	✓			EIAO-TM

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table A2.2 Implementation Schedule for Noise Measures

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.3	Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump.	Work Sites / During Construction	Contractor		✓			EIAO-TM, NCO
S4.3	Good Site Practice: <ul style="list-style-type: none"> Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. Mobile plant, if any, should be sited as far away from NSRs as possible. Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. 	Work Sites / During Construction	Contractor		✓			EIAO-TM, NCO
4.3	All the ventilation fans installed in sewage pumping stations should be provided with silencers or acoustics treatment.	PS1, PS1A, PS2, PS3, SPS at Site 5A1 and PS6	DSD (for the initial phase of PS1 & PS3) CEDD (for PS1A, PS2, SPS at Site 5A1, PS6, and the ultimate phase of PS1 & PS3)	✓	✓	✓		EIAO-TM

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Table A2.3 Implementation Schedule for Water Quality Measures

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.4	Operational Phase (i) Dual power supply or emergency generator should be provided at all the SPSs to secure electrical power supply; (ii) Standby pumps should be provided at all SPSs to ensure smooth operation of the SPS during maintenance of the duty pumps; (iii) An alarm should be installed to signal emergency high water level in the wet well at all SPSs; and (iv) For all unmanned SPSs, a remote monitor system connecting SPSs with the control station through telemetry system should be provided so that swift actions could be taken in case of malfunction of unmanned facilities.	PS1, PS1A, PS2, PS3, SPS at Site 5A1 and PS6	DSD (for the initial phase of PS1 & PS3) CEDD (for PS1A, PS2, SPS at Site 5A1, PS6, and the ultimate phase of PS1 & PS3)	✓	✓	✓		EIAO-TM, WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.4	<p>Construction Phase</p> <p><u>Construction site runoff and drainage</u></p> <p>Construction site runoff and drainage should be prevented or minimised in accordance with the guidelines stipulated in the EPD's Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94). Good housekeeping and stormwater best management practices, as detailed in below, should be implemented to ensure that all construction runoff complies with WPCO standards and that no unacceptable impact on the WSRs arises due to construction of the Project. All discharges from the construction site should be controlled to comply with the standards for effluents discharged into the Victoria Harbour WCZ under the TM-DSS.</p>	Work Sites / During Construction	Contractor		✓			EIAO-TM, WPCO, ProPECC PN 1/94
S4.4	<p><u>Sewage Effluent</u></p> <p>Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor shall also be responsible for waste disposal and maintenance practices.</p>	Work Sites / During Construction	Contractor		✓			EIAO-TM, WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.4	<u>Refuse and Debris</u> It is recommended that collection and removal of floating refuse should be performed at regular intervals on a daily basis. The contractor should be responsible for keeping the water within the site boundary and the neighbouring water free from rubbish during construction.	Work Sites / During Construction	Contractor		✓			EIAO-TM, WPCO
S4.4	<u>Stormwater Discharges</u> Minimum distances of 100 m shall be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes.	Work Sites / During Construction	Contractor		✓			EIAO-TM, WPCO

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Table A2.4 Implementation Schedule for Waste Management Measures

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.5	<p><u>Good Site Practices</u></p> <p>It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during the construction activities include:</p> <ul style="list-style-type: none"> • Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. • Training of site personnel in proper waste management and chemical waste handling procedures. • Provision of sufficient waste disposal points and regular collection for disposal. • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers. • A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites). 	Work Sites / During Construction	Contractor		✓			EIAO-TM, WDO

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S4.5	<p><u>Waste Reduction Measures</u></p> <p>Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> • Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. • Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force. • Any unused chemicals or those with remaining functional capacity shall be recycled. • Proper storage and site practices to minimise the potential for damage or contamination of construction materials. 	Work sites / during construction	Contractor		✓			EIAO-TM, WDO
S4.5	<p><u>Construction and Demolition Materials</u></p> <p>Mitigation measures and good site practices should be incorporated in the contract document to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include:</p> <ul style="list-style-type: none"> • Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible. 	Work site / during construction	Contractor and Independent Environmental Checker		✓			ETWB TCW No. 33/2002, 31/2004, 19/2005

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	<ul style="list-style-type: none"> Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric. Skip hoist for material transport should be totally enclosed by impervious sheeting. Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site. The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores. The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle. All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet. The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading. 							

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	When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Materials" should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.							
S4.5	<u>Chemical Waste</u> After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or other licensed facility, in accordance with the <i>Waste Disposal (Chemical Waste) (General) Regulation</i> .	Work Sites / during construction	Contractor		√			Waste Disposal (Chemical Waste) (General) Regulation Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.5	<p><u>General Refuse</u></p> <p>General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem.</p>							

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Table A2.5 Implementation Schedule for Land Contamination

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.6.25	For EMSD Workshop <ul style="list-style-type: none">EMSD as the current occupant of the EMSD Headquarters should conduct a land contamination assessment and complete the necessary remediation according to the relevant guidelines prior to handing over the site to the Government for redevelopment in the future.	EMSD Toi Maintenance Workshop / Prior to construction of PS NPS Sung Wong Vehicle	EMSD	√			√	“Guidance Note for Contaminated Land Assessment and Remediation” “Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management” “Guidance Notes for Investigation and Remediation of Contaminated Sites of Petrol Filling Stations, Boatyards and Car Repair /Dismantling Workshop”

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Table A2.6 Implementation Schedule for Landscape and Visual Impact

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.8	<p>Construction Phase</p> <ul style="list-style-type: none"> All existing trees shall be carefully protected during construction. Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work. Control of night-time lighting. Erection of decorative screen hoarding. 	Working site / During Construction Phase	Contractor	✓	✓			EIAO-TM
S4.8	<p>Operation Phase</p> <ul style="list-style-type: none"> Compensatory tree planting should be incorporated into the proposed projects where trees are affected. Tall buffer screen tree / shrub / climber planting should be incorporated to soften hard engineering structures and facilities. Aesthetically pleasing design as regard to the form, material and finishes shall be incorporated to all buildings, engineering structures and associated infrastructure facilities. 	Working site / During Design stage and Operation Phase	DSD/CEDD	✓		✓		EIAO-TM

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